

What is claimed is:

1. A method for applying individualized calibrated tone-reproduction curves to enable printing of image data, comprising the steps of:

5 (a) providing a plurality of calibrated tone-reproduction curves, each calibrated tone-reproduction curve corresponding to a distinct media type;

(b) determining a media type to be used in printing the image data;

10 (c) selecting a calibrated tone-reproduction curve based on the determined media type; and

15 (d) applying the selected calibrated tone-reproduction curve to print the image data.

2. The method as claimed in claim 1, further comprising the step of:

(e) determining a halftone to be used in printing the image data;

20 said step (a) providing a plurality of calibrated tone-reproduction curves, each calibrated tone-reproduction curve corresponding to a distinct halftone type and media type combination;

25 said step (c) selecting a calibrated tone-reproduction curve based on the determined media type and determined halftone type.

3. The method as claimed in claim 1, further comprising the steps of:

(e) performing a plurality of calibration operations, each calibration operation using a distinct media type;

(f) generating a tone-reproduction curve for each media type; and

(g) storing the generated the tone-reproduction curves;

5 said step (a) providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type.

4. The method as claimed in claim 1, further comprising the steps of:

(e) performing a plurality of calibration operations, each calibration operation

10 using a distinct media type and halftone type combination;

(f) generating a tone-reproduction curve for each media type and halftone type combination;

(g) storing the generated the tone-reproduction curves; and

(h) determining a halftone to be used in printing the image data;

15 said step (a) providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type and halftone type combination;

20 said step (c) selecting a calibrated tone-reproduction curve based on the determined media type and determined halftone type.

5. The method as claimed in claim 1, further comprising the steps of:

(e) performing a plurality of calibration operations, each calibration operation using a distinct media type;

(f) generating a tone-reproduction curve for each media type calibration;

5 (g) comparing the plurality of tone-reproduction curves to group tone-reproduction curves having similar characteristics;

(h) selecting a single tone-reproduction curve from a group of tone-reproduction curves having similar characteristics, each single tone-reproduction curve being the tone-reproduction curve associated with the media types that generated the tone-reproduction curve having similar characteristics;

10 (i) storing selected and non-grouped tone-reproduction curves; and

(j) generating a map to link a stored tone-reproduction curve to a media type, a stored tone-reproduction curve being capable of being mapped to more than one media type;

15 said step (a) providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type.

6. The method as claimed in claim 1, further comprising the steps of:

(e) performing a plurality of calibration operations, each calibration operation using a distinct media type and halftone type combination;

20 (f) generating a tone-reproduction curve for each media type and halftone type combination calibration;

(g) comparing the plurality of tone-reproduction curves to group tone-reproduction curves having similar characteristics;

(h) selecting a single tone-reproduction curve from a group of tone-reproduction curves having similar characteristics, each single tone-reproduction curve being the tone-reproduction curve associated with the media type and halftone type combinations that generated the tone-reproduction curve having similar characteristics;

5 (i) storing selected and non-grouped tone-reproduction curves; and

(j) generating a map to link a stored tone-reproduction curve to a media type and halftone type combination, a stored tone-reproduction curve being capable of being mapped to more than one media type and halftone type combination; and

10 (k) determining a halftone to be used in printing the image data;

      said step (a) providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type and halftone type combination;

15       said step (c) selecting a calibrated tone-reproduction curve based on the determined media type and determined halftone type.

7. The method as claimed in claim 1, further comprising the step of:

printing of image data on a xerographic printing device using the selected calibrated tone-reproduction curve.

8. A system for applying individualized calibrated tone-reproduction curves to enable printing of image data, comprising:

a storage device to store and provide a plurality of calibrated tone-reproduction curves, each calibrated tone-reproduction curve corresponding to a distinct halftone type and media type combination;

5 an input device to select a media type to be used in printing the image data and to select a halftone to be used in printing the image data; and

10 a processor to select a calibrated tone-reproduction curve based on the selected media type and determined halftone type and to apply the selected calibrated tone-reproduction curve to print the image data.

9. The system as claimed in claim 8, further comprising:

a xerographic printing device using the selected calibrated tone-reproduction curve to print image data.

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10. The system as claimed in claim 9, wherein:

said input device selects a halftone to be used in printing the image data;

20 said storage device provides a plurality of calibrated tone-reproduction curves, each calibrated tone-reproduction curve corresponding to a distinct halftone type and media type combination;

said processor selects a calibrated tone-reproduction curve based on the selected media type and selected halftone type.

11. The system as claimed in claim 9, further comprising:

calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type;

5                   said calibration means generating a tone-reproduction curve for each media type;

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      said storage device storing the generated tone-reproduction curves and providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type.

10               12. The system as claimed in claim 9, further comprising:

calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type;

                  said calibration means generating a tone-reproduction curve for each media type;

                  said input device selecting a halftone to be used in printing the image data;

15               said storage device storing the generated tone-reproduction curves and providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct halftone type and media type combination;

                  said processor selecting a calibrated tone-reproduction curve based on the selected media type and selected halftone type.

20               13. The system as claimed in claim 9, further comprising:

calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type;

5        said calibration means generating a tone-reproduction curve for each media type calibration;

5        said calibration means comparing the plurality of tone-reproduction curves to group tone-reproduction curves having similar characteristics;

5 A'      said calibration means selecting a single tone-reproduction curve from a group of tone-reproduction curves having similar characteristics, each single tone-reproduction curve being the tone-reproduction curve associated with the media types that generated 10 the tone-reproduction curve having similar characteristics;

      said storage device storing selected and non-grouped tone-reproduction curves;

10        said calibration means generating a map to link a stored tone-reproduction curve to a media type, a stored tone-reproduction curve being capable of being mapped to more than one media type;

15        said storage device providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type.

14. The system as claimed in claim 9, further comprising:

20        calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type and halftone type combination;

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said calibration means generating a tone-reproduction curve for each media type and halftone type combination calibration;

5 said calibration means comparing the plurality of tone-reproduction curves to group tone-reproduction curves having similar characteristics;

10 said calibration means selecting a single tone-reproduction curve from a group of tone-reproduction curves having similar characteristics, each single tone-reproduction curve being the tone-reproduction curve associated with the media type and halftone type combinations that generated the tone-reproduction curve having similar characteristics;

said storage device storing selected and non-grouped tone-reproduction curves;

15 said calibration means generating a map to link a stored tone-reproduction curve to a media type and halftone type combination, a stored tone-reproduction curve being capable of being mapped to more than one media type and halftone type combination; and

said input device selecting a halftone to be used in printing the image data;

20 said storage device providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type and halftone type combination;

said processor selecting a calibrated tone-reproduction curve based on the selected media type and selected halftone type.

25 15. The system as claimed in claim 9, further comprising:

an auto-segmentation circuit to determine a halftone to be used in printing the image data;

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said storage device providing a plurality of calibrated tone-reproduction curves, each calibrated tone-reproduction curve corresponding to a distinct halftone type and media type combination;

15  
said processor selecting a calibrated tone-reproduction curve based on the selected media type and determined halftone type.

16. The system as claimed in claim 9, further comprising:

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calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type;

10  
said calibration means generating a tone-reproduction curve for each media type; and

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an auto-segmentation circuit to determine a halftone to be used in printing the image data;

15  
said storage device storing the generated tone-reproduction curves and providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct halftone type and media type combination;

16  
said processor selecting a calibrated tone-reproduction curve based on the selected media type and determined halftone type.

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17. The system as claimed in claim 9, further comprising:

calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type and halftone type combination;

5       said calibration means generating a tone-reproduction curve for each media type and halftone type combination calibration;

      SbA  
5       said calibration means comparing the plurality of tone-reproduction curves to group tone-reproduction curves having similar characteristics;

10       said calibration means selecting a single tone-reproduction curve from a group of tone-reproduction curves having similar characteristics, each single tone-reproduction curve being the tone-reproduction curve associated with the media type and halftone type combinations that generated the tone-reproduction curve having similar characteristics;

      said storage device storing selected and non-grouped tone-reproduction curves;

15       said calibration means generating a map to link a stored tone-reproduction curve to a media type and halftone type combination, a stored tone-reproduction curve being capable of being mapped to more than one media type and halftone type combination; and

      an auto-segmentation circuit to determine a halftone to be used in printing the image data;

      said storage device providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type and halftone type combination;

20       said processor selecting a calibrated tone-reproduction curve based on the selected media type and determined halftone type.

18. A system for applying individualized calibrated tone-reproduction curves to enable printing of image data, comprising:

storage means for storing and providing a plurality of calibrated tone-reproduction curves, each calibrated tone-reproduction curve corresponding to a distinct halftone type and media type combination;

5 first means for determining a media type to be used in printing the image data; second means for determining a halftone to be used in printing the image data; and

10 third means for selecting a calibrated tone-reproduction curve based on the determined media type and determined halftone type and applying the selected calibrated tone-reproduction curve to print the image data.

19. The system as claimed in claim 18, further comprising:

15 a xerographic printing device using the selected calibrated tone-reproduction curve to print image data.

20. The system as claimed in claim 18, further comprising:

calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type;

20 said calibration means generating a tone-reproduction curve for each media type; said storage means storing the generated the tone-reproduction curves and providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated

tone-reproduction curve corresponding to a distinct halftone type and media type combination;

    said third means selecting a calibrated tone-reproduction curve based on the determined media type and determined halftone type.

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21. The system as claimed in claim 18, further comprising:

    calibration means for performing a plurality of calibration operations, each calibration operation using a distinct media type and halftone type combination;

10    said calibration means generating a tone-reproduction curve for each media type and halftone type combination calibration;

    said calibration means comparing the plurality of tone-reproduction curves to group tone-reproduction curves having similar characteristics;

15    said calibration means selecting a single tone-reproduction curve from a group of tone-reproduction curves having similar characteristics, each single tone-reproduction curve being the tone-reproduction curve associated with the media type and halftone type combinations that generated the tone-reproduction curve having similar characteristics;

    said storage means storing selected and non-grouped tone-reproduction curves;

    said calibration means generating a map to link a stored tone-reproduction curve to a media type and halftone type combination, a stored tone-reproduction curve being 20 capable of being mapped to more than one media type and halftone type combination; and

said storage means providing a plurality of stored calibrated tone-reproduction curves, each stored calibrated tone-reproduction curve corresponding to a distinct media type and halftone type combination;

5 said third means selecting a calibrated tone-reproduction curve based on the  
determined media type and determined halftone type.

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